



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,174	05/10/2001	Johan Cornelis Talstra	NL000262	5915

24737 7590 01/13/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER

POLTORAK, PIOTR

ART UNIT PAPER NUMBER

2134

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/853,174

**Applicant(s)**

TALSTRA ET AL.

**Examiner**

Peter Poltorak

**Art Unit**

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/20/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-20 have been examined.

#### ***Priority***

2. Foreign priority has been claimed in this application.
3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on 5/10/2000.

#### ***Specification***

4. It appears that there may be some missing text in the abstract e.g. line 13.  
Applicant should check the abstract and clarify/correct the body of the abstract and remove any blank spaces.
5. Also, the meaning of "Fig. 2" in line 17 is not understood.

#### ***Oath/Declaration***

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.  
The oath or declaration is defective because the signatures of the inventors is not present..

#### ***Claim Objections***

7. Claim 20 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative and cannot depend from any other multiple dependent claim. See

Art Unit: 2134

MPEP § 608.01(n). Accordingly, claim 20 has not been further treated on the merits.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
9. "Said examining process" in claim 12 lacks antecedent basis.
10. The phrase: "logically embedded" as cited in reference to the second signal (claims 1,13-14,16,17,19-20) is not understood. In light of the specification the phrase is treated as information that on the original recording carrier a first (physical) signal is expected (*to be found*) in addition to the second signal.
11. Claims 1, 13-14 and 16-17 recite "a second signal" followed by another "a second signal" (*e.g. claim 1 lines 3 and 6*). It is not clear whether the claims refer to two different signals or the same signal.
12. Claim 8 is not understood. The limitation "its output is biased by interpreting emitted symbols '0'..'s-n-1' as 'unencrypted' and 's-n'...'s-1' as 'encrypted' is not clear. For purposes of further examination the phrase is treated as though bits other than 0's represent encryption.

Art Unit: 2134

13. The phrase: "the second signal is embedded in the first signal by selecting a key" in claim 9 is not understood. It is not clear how it is possible to embed a signal by selecting a key from groups of other keys. For purposes of further examination the phrase is treated as "the second signal is encrypted with a key".

14. Claims 10-12 do not appear to relate to the invention as interpreted by the examiner in paragraph 12, which refers to claim on which they depend. As a result it is unclear what applicant is claiming and it is impossible to determine the metes and bounds of claims 10-12. Clarification and correction is required. These claims have not been further treated on their merits in light of their incomprehensible dependency.

15. Claims 2-7 and 15-18 are rejected by virtue of their dependence.

Appropriate correction is required.

16. Claims 1, 3, 13-14, 16-17 and 19 are rejected under 35 U.S.C. 102 (a) as being anticipated by *Bloom et al.* (*Bloom, J.A.; Cox, I.J.; Kalker, T.; Linnartz, J.-P.M.G.; Miller, M.L.; Traw, "Copy protection for DVD video", C.B.S.Proceedings of the IEEE ,Volume: 87 , Issue: 7 , July 1999 Pages:1267 - 1276*).

17. *Bloom et al.* teach wobble, which can be detected from the optical laser pickup or from signals in the servo feedback tracking loop. Upon insertion of a disk in a compliant drive the drive looks for the presence of a wobble, and if present reads out the payload. Only if the additional watermark payload and transformed wobble bits match is playback allowed (*pg. 1275 § 2*). This

reads on "a physical mark for storing at least part of the information on the information carrier". Furthermore, *Bloom et al.* teach that if the MPEG decoder informs the drive that a copy-never watermark is read, the drive feeds the wobble payload and requests the additional information. Only if the additional watermark payload and transformed wobble bits match is playback allowed (*pg. 1275 § 2*). This reads on "a second signal logically embedded in the first signal indicating that a physical mark is used for storing at least part of the information on the information carrier, and on the second signal that may be used for refusing play back of the information read from the information carrier if a second signal but no physical mark has been detected.

18. Claims 1, 3, 13-14, 16 and 19 are substantially equivalent to claim 17;

therefore claims 1, 3, 13-14, 16 and 19 are similarly rejected.

19. Claims 1, 3, 13-14, 16-17 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by *Wirtz (U.S. Patent No. 5940134)*.

20. As per claim 17 *Wirtz* teaches the specific combinations of zero luminance and non-zero chrominance values constituting the watermark and a video disc player, which is arranged to check the embedded watermark against the disc's wobble key, reproduces the signal if the authenticity of the signal is acknowledged (*col. 2 lines 34-48*). However, if a consumer re-encodes the reproduced analog signal and records the encoded signal on a different recordable disc, the watermark is retained and no longer corresponds with the new disc's wobble key which reads on "a physical mark for storing at least part of the information on the information carrier", and "a second signal

logically embedded in the first signal indicating that a physical mark is used for storing at least part of the information on the information carrier”.

Furthermore, *Wirtz* teaches that the watermark is not lost when the signal is re-encoded and copied on a recordable disc not having such a wobble groove. Accordingly, the player will not reproduce the signal from such a recordable disc (*col. 3 lines 42-47*), which reads on “a second signal may be used for refusing play back of the information read from the information carrier if a second signal but no physical mark has been detected.

21. Claims 1, 3, 13-14, 16 and 19 are substantially equivalent to claim 17; therefore claims 1, 3, 13-14, 16 and 19 are similarly rejected.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 1, 3, 5-8, 13-14, 16-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Glogau et al.* (*International Pub. No. WO 99/11020*) in view of *Bloom et al.* (*Bloom, J.A.; Cox, I.J.; Kalker, T.; Linnartz, J.-P.M.G.; Miller, M.L.; Traw, "Copy protection for DVD video", C.B.S.Proceedings of the IEEE , Volume: 87 , Issue: 7 , July 1999 Pages:1267 - 1276*) and in view of *Wirtz* (*U.S. Patent No. 5940134*).

Art Unit: 2134

23. As per claim 17 *Glogau et al.* teach a second signal (*secret message*) embedded in the first signal (*digital image (or digital audio pg. 4 lines 31-32)*) (*Glogau et al. pg. 5 lines 1-20 and Fig. 2*).
24. *Glogau et al.* do not teach the first signal/physical mark in which a second signal is logically embedded, and which could be used for refusing play back of the information read from the information carrier if a second signal but no physical mark were detected.
25. *Bloom et al.* teach the first signal/physical mark in which a second signal is logically embedded, and which could be used for refusing play back of the information read from the information carrier if a second signal but no physical mark were detected (*Bloom et al., pg. 1275 § 2*). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the first signal/physical mark in which a second signal is logically embedded, and which could be used for refusing play back of the information read from the information carrier if a second signal but no physical mark were detected as taught by *Bloom et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to provide a way to distinguish ROM disks from recordable and rewritable disks (*Bloom et al., pg. 1275 § 2*).
26. *Wirtz* teaches the first signal/physical mark in which a second signal is logically embedded, and which could be used for refusing play back of the information read from the information carrier if a second signal but no physical mark were detected (*Wirtz col. 2 lines 34-48 and col. 3 lines 42-47*). It would



have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the first signal/physical mark in which a second signal is logically embedded, and which could be used for refusing play back of the information read from the information carrier if a second signal but no physical mark were detected as taught by *Wirtz*. One of ordinary skill in the art would have been motivated to perform such a modification in order to prevent the reproduction of the disk copy (*Wirtz, col. 2 lines 40-48*).

27. Claims 1, 3, 13-14, 16 and 19 are substantially equivalent to claim 17;

therefore claims 1, 3, 13-14, 16 and 19 are similarly rejected.

28. As per claim 5-7 *Glogau et al.* teach the second signal being embedded in the first signal by encoding it in a pseudo-random noise pattern of encrypted and unencrypted packs of the first signal, wherein the encryption sequence generated based on a linear feedback shift register (*pg. 2 lines 14-17*).

29. Claim 8 is treated as best understood. *Glogau et al.* and *Wirtz* do not explicitly teach the linear feedback shift register (*LFSR*) being over Galois Field. However, pseudo-random numbers generate 1s and 0s, which appear fairly random, but after certain times the numbers repeat, and for the purpose of security the interest is to extend the time of this repeat to as long as possible. The choice of minimal and irreducible polynomial function (*such as Galois*) which gives a long time period without the repeat would have been obvious to one of ordinary skill in the art given that they are well known and barring any unexpected.

Art Unit: 2134

Also, in the XOR function 1s are ignored and 0s influence the result, which reads on "and its output is biased by interpreting emitted symbols '0'...'s-n-1' as 'unencrypted and 's-n'...'s-1' as 'encrypted'.

30. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Glogau et al.* (*International Pub. No. WO 99/11020*) in view of *Bloom et al.* (*Bloom, J.A.; Cox, I.J.; Kalker, T.; Linnartz, J.-P.M.G.; Miller, M.L.; Traw, "Copy protection for DVD video", C.B.S.Proceedings of the IEEE ,Volume: 87 , Issue: 7 , July 1999 Pages:1267 - 1276*) and in view of *Wirtz* (*U.S. Patent No. 5940134*) and further in view of *Schneier* (*Bruce Schneier, "Applied Cryptography, Protocols, Algorithms and Source Code in C", 2nd edition, 1996 ISBN: 0471128457*).

31. *Glogau et al.* in view of *Wirtz* and *Bloom et al.* teach the linear feedback shift register (LFSR) as discussed above. *Glogau et al.* in view of *Wirtz* and *Bloom et al* do not explicitly teach the linear feedback shift register being over Galois Field. *Schneier* teaches LFSR over Galois Field (*Schneier, pg. 378 second § -370 first §*). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use LFSR over Galois Field. One of ordinary skill in the art would have been motivated to perform such a modification in order to utilize the LFSR efficiently in software (*Schneier, pg. 378 second §*).

32. Claims 2, 4, 15 and 18 are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Bloom et al.* (*Bloom, J.A.; Cox, I.J.; Kalker, T.; Linnartz, J.-P.M.G.; Miller, M.L.; Traw, "Copy protection for DVD video",*

Art Unit: 2134

*C.B.S.Proceedings of the IEEE , Volume: 87 , Issue: 7 , July 1999 Pages:1267 - 1276) in view of Official Notice.*

33.As per claim 2 *Bloom et al.* teach the information carrier being DVD. *Bloom et al.* does not explicitly teach the information carrier to be CD. Official notice is taken that it is old and well-known practice to use CD disc as the information carrier. One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ a CD disc as the information carrier given the benefit of an inexpensive portable large storage space. Claims 15 and 18 are substantially equivalent to claim 2; therefore claims 15 and 18 are similarly rejected.

34.As per claim 4 *Bloom et al.* teach the second signal as discussed above. *Bloom et al.* do not explicitly teach the second signal being a single bit trigger. Official Notice is taken that it is old and well-known practice to represent the decision with using a single bit to trigger appropriate action ("*copy?*" Y/N or "*look for wobble?*" Y/N). One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ a single bit to take advantage of simplicity and speed while making decision whether a desired action should be triggered.

35.Claims 2, 4, 9, 15 and 18 are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Wirtz (U.S. Patent No. 5940134)* in view of *Official Notice*.

36.As per claim 2 *Wirtz* teaches video disc as the information carrier (*col. 3 lines 35-40*). *Wirtz* does not explicitly teach the information carrier to be CD or DVD disc. Official notice is taken that it is old and well-known practice to use

Art Unit: 2134

CD or DVD disc as the information carrier. One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ CD or DVD disc as the information carrier given the benefit of an inexpensive portable large storage space.

Claims 15 and 18 are substantially equivalent to claim 2; therefore claims 15 and 18 are similarly rejected.

37. As per claim 4 *Bloom et al.* teach the second signal as discussed above.

*Bloom et al.* do not explicitly teach the second signal being a single bit trigger. Official Notice is taken that it is old and well-known practice to represent the decision with using a single bit to trigger appropriate action ("copy?" Y/N or "look for wobble" Y/N). One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ a single bit to take advantage of simplicity and speed while making a decision whether a desired action should be triggered.

38. As per claim 9 (*as best understood, refer to the rejection 112 second, above*)

*Blook et al.* teach that the second signal is embedded in the first signal in order to copy protect content as discussed above. *Blook et al.* do not explicitly teach embedding the second signal in the first signal by selecting a key for at least partly encrypting the information from one of at least two groups of keys. Official Notice is taken that it is old and well-known practice to protect data signals by encrypting the data signals using encryption keys. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to embedding the second signal in the first signal by

Art Unit: 2134

selecting a key for at least partly encrypting the information from one of at least two groups of keys. One of ordinary skill in the art would have been motivated to perform such a modification in order to protect the second signal from being altered.

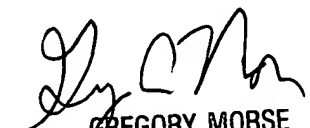
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571)272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
1/10/04

  
GREGORY MORSE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100